Final Remedial Action Report

Annette Island PCB Removal

Metlakatla, Alaska

USACE Contract No. DACA85-94-D-0017, Delivery Order No. 0009

OHM Project No. 19087

~~*February* 1998~~ SEPTEMBER

OHM Remediation Services Corp.

5730 B Street
Anchorage, Alaska 99518

Volume 2 of 7

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Resumes

Kent D. Baugh, PhD
Manager, Technical Services

Education

Ph.D., Environmental Engineering, 1983
M.S., Sanitary Engineering, 1976
B.S., Civil and Environmental Engineering, 1975

Expertise

Dr. Baugh is a registered engineer with extensive experience in environmental restoration and/or remedial action project engineering design and management. Dr. Baugh's remediation experience covers the entire gamut of environmental restoration projects, from investigation and engineering studies through remedial action. His environmental restoration experience includes 9 years as a senior project engineer/manager for remedial action projects.

Experience

His engineering design and remediation project management experience includes the design, construction and operation of treatment facilities for a wide range of wastes, and contaminated soil and sludges; performance of soil and groundwater investigations; preparation of closure and remedial action plans and designs; interfacing with regulatory agencies; training of field personnel; technical and managerial oversight of field remediation projects; project cost control, scheduling, and resource management. This remediation experience includes projects regulated under CERCLA, RCRA, TSCA, state regulations, and USTs. Types of contaminants include metals, PCBs, pesticides, volatile and semi-volatile organics, POL, and acid/bases. Project and management experience includes:

- Management and oversight of technical services for multiple Delivery Orders under Remedial Action Contracts with various governmental agencies. Technical services performed include site investigations; work plan preparation which included quality control and chemical data acquisition plans; preparation of construction drawings and procurement technical specifications; field engineering and geotechnical actions to implement remedial actions; quality control of project activities; and preparation of project closure documents and reports.

- Remediation and Closure of Refinery Impoundments—Project Director for the permitting, engineering design, and implementation of a closure plan for RCRA impoundments at a former oil refinery. The bioremediation processes used for closure consist of a 5 million gallon bioslurry reactor and a 6+ acre land treatment unit for treating in excess

of 130,000 cubic yards of wastes, primarily refinery sludges and some contaminated soil. Engineering design and laboratory treatment optimization studies were performed to establish the closure time frame and operational criteria. Field operations management and oversight included health and safety compliance, field personnel training, quality assurance, and regulatory agency reporting and interfacing.

- Soil Remediation Management—Project Manager for remediation of sites ranging in size from 500 to over 35,000 cubic yards of contaminated soil. Technologies used for remediation included bio-treatment, fixation, soil venting, and off-site disposal. Recent remediation projects include pentachlorophenol and arsenic contaminated soil, from oil field production operations. Manager of multiple projects involving laboratory and field pilot testing, technical reports and design plans preparation, and or full-scale remediation of soils containing petroleum hydrocarbons, phthalates, naphthalene, and polycyclic aromatic hydrocarbons.

- *In situ* Bioremediation Evaluation and Design—*In situ* remediation for groundwater contaminated with chlorinated ether, volatile aromatics, and polycyclic aromatic hydrocarbons at a major chemical processing facility in Texas. Project Manager for the development, testing, and design of *in situ* technologies for treatment of 30,000 cubic yards of silty clayey soils contaminated with wood preserving chemicals by washing/flushing of the contaminants from the soil and bioremediation.

- Design of Treatment Facilities—Evaluated, performed treatability studies, and designed, and provided construction management and start-up services for facilities treating various waste streams, including oil, heavy metal, wood preserving, PCB, organic coolant additive, halogenated and non-halogenated solvent, pulp and paper mill, and dyeing wastes.

Specialized Training

OSHA 8-Hour Refresher Training, 1995
OSHA 40-Hour Safety Training, 1990

Registrations/Certifications

Civil Engineering, 1978 California No. 28941
Responsible Managing Employee for General Engineering Contractor (Class A) and Hazardous Substance and Removal and Remedial Action License, State of California, #606139

Brionne R. Bischke
Transportation & Disposal Coordinator

Education

Studies in Chemical Engineering at San Jose State University, the University of Wisconsin, Madison and Pennsylvania State University, State College, 1985 - present

Expertise

Coordination of waste streams for transportation and disposal using a vast matrix of transporters and disposers.

Compliance with CFRs, state and local statutes and regulations, and subcontractor requirements.

Experience

Mr. Bischke has five and a half years experience as Senior Field Chemist and Transportation & Disposal (T&D) Coordinator. Representative samples of his project experience are described below:

- T&D Coordinator for a site decontamination projects (Site 2 and Site 5) for the Naval Facilities Engineering Command in Barstow, CA and Camp Pendleton, CA. Responsibilities included preparing the cost-estimates, the work plans, the solicited vendors' evaluations, the profiles and the manifest packages while coordinating the transportation and disposal of 340 tons and 190 tons of soils contaminated with pesticides and solvents, respectively.

- T&D Coordinator for a site decontamination project for the Naval Facilities Engineering Command in Pearl City, Hawaii. Responsibilities included preparing cost estimates, waste management plans, vendor scopes of work, packaging wastes, preparing profiles, manifests, and land disposal restriction (LDR) forms, and coordinating the transportation and disposal of 500 cubic yards of DOT impacted soils via barge, rail, and highway.

- T&D Coordinator for a facility decontamination project for Lockheed Plant B-1 in Burbank, California. Responsibilities included providing packaging guidelines for wastes, completing profiles, manifests, and land disposal restriction (LDR) forms, and coordinating the transportation and disposal of 330,500 gallons and 2,112 cubic yards of 16 different waste streams to eight different disposal sites.

- Supervisor for the collection of Household Hazardous Wastes (HHW) for Los Angeles County, Glendale, and Napa, California, Lake Havasu, Arizona and Raleigh, North Carolina. Responsibilities included providing packaging guidelines for wastes; identifying, segregating, packaging, and labeling wastes; completing profiles, manifests, and LDRs; coordinating the transportation and disposal of various types of wastes to appropriate disposal sites.

- Senior Field Chemist for military base and hospital decontaminations for the Defense Reutilization & Marketing Office (DRMO) in Ft. Meade, Maryland, which included Patuxent Naval Air Test Center, Indian Head Naval Ordnance Station, National Security Administration, US Naval Academy, Naval Medical Center, Walter Reed Army Hospital, etc. Responsibilities included providing packaging guidelines for wastes; identifying, segregating, packaging, and labeling wastes; completing profiles, manifests, and LDRs; coordinating the transportation and disposal of various types of wastes to appropriate DRMO approved disposal sites.

- Lab Pack Chemist for large transfer station in Reidsville, North Carolina and Phoenix Arizona. Responsibilities included supervising the unpackaging, bulking, and repackaging of lab packs received from DRMO contracts nationwide; auditing incoming manifests for compliance of CFRs, state and local statutes and regulations, and facility permit; and assisting in inventory control.

- Auditor of subcontractor Transfer, Storage, and Disposal Facilities (TSDF) and Transportation Facilities throughout the western United States. Responsibilities included checking for compliance of CFRs, state and local statutes and regulations, and facility permit; assuring premium customer service; presenting contracting company's requirements; and assuring contracting company's requirements are fulfilled.

- T&D Coordinator for a facility decontamination project for ALCOA Rod Mill in Vancouver, Washington. Responsibilities included establishing and implementing both a waste transportation and disposal and a cost tracking system, preparing profiles and manifests, and coordinating the transportation and disposal of 15,000 tons of PCB impacted soils and concrete.

- T&D Coordinator for a fleet decontamination project for the Suisun Bay Reserve Fleet in Benicia, California. Responsibilities included providing packaging guidelines for wastes; identifying, segregating, packaging, and labeling wastes for lab packs; preparing profiles, manifests, and LDRs; coordinating transportation and disposal of 1,100 drums of 58 different waste streams to six different disposal sites via barge rail and highway.

- T&D Coordinator for various emergency response projects including train derailments for Union Pacific and Southern Pacific Railroads. Responsibilities included providing packaging guidelines for wastes; identifying, segregating, packaging, and labeling wastes; completing profiles, manifests, and LDRs; coordinating the transportation and disposal of various types of wastes to appropriate disposal sites; and interfacing with regulatory agencies.

- Contractor Quality Control (CQC) Officer for the U.S. Army Corps of Engineers in Ft. Richardson, Alaska. Responsibilities included project quality assurance/quality control, establishing and implementing a grid sampling plan, and coordinating the transportation and disposal of 500 cy of PCB impacted soils via barge, rail, and highway.

- T&D Coordinator for a soils removal project for the Federal Aviation Administration at the remote eskimo village of Aniak, Alaska. Responsibilities included preparing cost estimates, waste management plans, vendor scopes of work, packaging wastes, profiles, US and Canadian manifests, and LDRs, and coordinating the transportation and disposal of 18 intermodal containers of DDT impacted soils, water, PPE, and laboratory chemicals via barge and highway.

- T&D Coordinator for a soils removal project for the US Army Corps of Engineers at the remote village of King Salmon, Alaska. Responsibilities included preparing cost estimates, waste management plans, vendor scopes of work, packaging wastes, profiles, manifests, and LDRs, and coordinating the transportation of 69 drums of PCB impacted soils, water, and PPE via airplane and highway.

- T&D Coordinator for a facility decontamination project for the Pearl Harbor Naval Shipyard at Pearl Harbor, Hawaii. Responsibilities included preparing cost estimates, waste management plans, vendor scopes of work, packaging wastes, profiles, manifests, and LDRs, and coordinating the transportation and disposal of 8 intermodal containers tributyl tin impacted sludge via barge, rail and highway.

- T&D Coordinator for a soils removal project for March Air Force Base at Riverside, California. Responsibilities included preparing cost estimates, waste management plans, vendor scopes of work, packaging wastes, profiles manifests, and LDRs, and coordinating the transportation and disposal of 8,945 tons of TPH and PAH impacted soils via highway.

- T&D Coordinator for a tank and soils removal project for the Naval Facilities Engineering Command at Midway Island. Responsibilities included preparing cost estimates, waste management plans, vendor

scopes of work, packaging wastes, profiles, manifests, and LDRs, and coordinating the transportation and disposal of 100 intermodal containers of DDT, PCB, and asbestos impacted soils, building debris, PPE, and laboratory chemicals via barge, rail, and highway.

- T&D Coordinator for the AC-S Environmental Security at Camp Pendleton, CA. Responsibilities included preparing cost estimates, waste management plans, vendor scopes of work, packaging wastes, profiles, manifests, LDRs, and coordinating the transportation and disposal of 1,200 tons of primary treated sewage sludge via highway.

Specialized Training

12-hour HM-126F Training for the Safe Transportation of Hazardous Materials, 1994
40-hour Superfund Amendments & Reauthorization Act (SARA)/Occupational Safety & Health Act (OSHA) Health & Safety Training, 1990
8-hour Update Superfund Amendments & Reauthorization Act (SARA)/ Occupational Safety & Health Act (OSHA) Health & Safety Training, 1994
Cost Accounting for Environmental Compliance, 1992
Environmental Management/Auditing, 1992
The Organized Manager, American Management Association, 1992
International Air Transportation Association Regulations for the Transportation of Dangerous/ Radioactive Goods, 1995

James P. Bushnell, C.I.H.
Project Health and Safety Manager

Education

72 Graduate Credits in Environmental Health, University of Washington
B.S., Chemical Engineering, University of Washington

Expertise

Mr. Bushnell is a Certified Industrial Hygienist with 14 years of experience in the hazardous waste management and remediation fields. He currently serves as a Project Health and Safety Manager for OHM in the Western Region. Mr. Bushnell's duties include preparing site health and safety plans, and supporting project site safety officers, and providing health and safety training and management.

Mr. Bushnell is expertly skilled in the areas of confined space entry, regulations assessment and application, health and safety audit review processes, air monitoring, asbestos health and safety management and regulations, and environmental compliance.

Experience

Mr. Bushnell has worked on numerous projects as Project Health and Safety Manager. His roles in the following projects included developing and implementing detailed health and safety plans, policies, and procedures; providing health and safety training; managing complex health and safety issues; supervising site safety staff; ensuring compliance with health and safety and environmental regulations; developing and implementing worker and community air monitoring plans and PPE programs; and initiating project-specific risk management policies.

- Project Health and Safety Manager, Summitville Mine Superfund Site, Cropsy Removal Action, Phase II, South Fork, CO. As the prime contractor for this $9.3 million remediation, OHM was responsible for the relocation of 3,700,000 cubic yards of waste rock and tailings from a former gold mining operation. Potentially acid producing rock occupied a wet drainage area, and was stabilized in a compacted cell on site. OHM remediated contaminated soil and diverted drainage and seepage away from the Cropsy drainage area to the Cropsy water treatment facility. Optional schedules were also completed for the removal of similar material from two other areas on site and Cleveland Cliff Dam modifications.

- Project Health and Safety Manager, Bunker Hill Superfund Site Mine Operations Area Remedial Action, Kellogg, ID. OHM was contracted by the

Bunker Limited Partnership to remove ores and concentrates and remove and dispose of asbestos-containing material, conduct building washdown and demolition, excavate and replace soil, and perform site grading activities associated with the remedial efforts.

- Project Health and Safety Manager, Merit Truck Stop, Portland, OR. Work at the site consisted of the abandonment of five existing monitoring wells; the construction of a contaminated soils stockpile area and soils aeration pad; the remediation and removal of six UST (ranging in capacity from 1,500 gallons to 12,000 gallons, and containing a variety of contents including gasoline, diesel fuel, and bulk oil); and the excavation of approximately 5,500 tons of TPH (primarily gasoline)-contaminated soil. OHM was also responsible for temporary product recovery, the backfilling of excavated areas with treated soils and imported material, as required, and the installation and operation of a groundwater pump and treat system.

- Project Health and Safety Manager, Sharon Steel/Midvale Tailings Superfund Site, Midvale, UT. Tasks as the prime contractor on this remedial action encompassed removing contaminated soil from 118 properties comprising Phase 2 of the remedial action; transporting and disposing of the lead and arsenic contaminated soil at an on-site repository; and backfilling and restoring the properties to their original condition, per the specifications and project drawings. OHM was also responsible for site health and safety and subcontractor management.

- Project Health and Safety Manager, Northwest Transformer (Mission/Pole NPL Site), Everson, WA. Responsible for site preparation, remedial activities, on-site management systems support, and technical/construction oversight. The nature of the project necessitated a multi-disciplinary approach and an experienced management effort to achieve the required cleanup goals. The activities accomplished included: facility demolition; equipment decontamination; PCB-contaminated soil excavation, stockpiling, loading, transportation, and disposal; and backfilling and site grading. Monitored on-site activities and strictly adhered to established air quality (dust control) guidelines to protect the project staff and nearby residents.

- Project Health and Safety Manager, Selma Pressure Treating Superfund Site, Selma, CA. This project was performed for the USACE, Sacramento District, on behalf of the USEPA, Region 9. The remedial action encompassed the sampling, analysis, excavation, and handling of approximately 56,000 cubic yards of soil (roughly 11,500 cubic yards of which was contaminated), the on-site stabilization of the contaminated soil, and the on-site placement of the fixed soil under a clay and synthetic liner cap in accordance with RCRA. Involved the development and maintenance of an extensive air monitoring program and site-specific Safety, Health, and Emergency Response Plan, intensive sampling and analytical work including the use of an innovative

field screening technique for pentachlorophenol, and associated surveying work. OHM also developed a detailed Operations Plan, Chemical Data Acquisition Plan, and Quality Control Plan for the site.

- Project Health and Safety Manager, Marshall/Boulder Landfill Remediation, Boulder County, CO. OHM installed a groundwater collection system, constructed a water treatment facility, and performed site landfill improvements including draining and capping two lagoons, landfill grading, and constructing seepage control barriers. The contaminants of concern included metals, volatile organic compounds, and ammonia. Preserved and enhanced the site's natural resources by regrading and revegetating a 47.5-acre, inactive section of the landfill to reduce erosion and minimize the infiltration of precipitation through the landfill cover. Developed, implemented, and managed a detailed Health and Safety Plan in strict adherence with OSHA requirements.

- Project Health and Safety Manager, Bergsoe Metal Corporation (BMC) Secondary Lead Smelter, Phases I-V and IIV, St. Helens, OR. Major project activities at the BMC plant included: developing and implementing a detailed Community Relations and Information Plan and a Health and Safety Plan which included the use of on- and off-site ambient air monitoring; the excavation, transportation, and disposal of lead-contaminated material; and the decontamination or demolition of various buildings on the 57-acre project site. A key element of the project was the containment of lead-contaminated dust. To ensure the safety of project personnel and the public, OHM implemented an extensive community protection plan to prevent the spread of contaminants.

- Mr. Bushnell has also served as a Site Safety Officer for large Superfund site remediations. Responsible for administering the overall Health and Safety Program for site personnel including all subcontractors. The main emphasis of his work was to manage and track air monitoring activities, including both industrial hygiene and perimeter air sampling. Samples were collected as part of project-community protection efforts. Mr. Bushnell hired and supervised industrial hygiene air monitoring personnel and directed perimeter air sampling performed by subcontractors. Responsibilities included:

  - Writing and implementing health and safety plans
  - Performing toxicological evaluations
  - Developing and implementing engineering and work practice controls
  - Training and safety motivation
  - Safety administration including, medical surveillance, worker's compensation, accident statistics, cost control, and right-to-know
  - Community protection and public relations

Specialized Training

40-hour OSHA Health and Safety Training
First Aid and Adult CPR
Site Safety Officer Training

Affiliations

American Industrial Hygiene Association (AIHA), Member
American Board of Industrial Hygiene, Certified Industrial Hygienist #3872

Registrations/Certifications

Certified Naval Gas Free Engineer for Maritime Operations
Registered UST Site Assessor, Washington State Department of Ecology

Harald R. Ehlers, P.E.
Senior Project Engineer

Education

M.S., Engineering, University of Washington, Seattle WA, 1983
B.S., Oceanography, University of Washington, Seattle WA, 1980
B.A., Zoology, University of Washington, Seattle WA, 1980

Expertise

Harry Ehlers is a Senior Project Engineer in OHM Remediation Services Corp.'s Seattle office. He is currently serving as a project engineer and quality control manager for Alaska projects under contracts with the U.S. Army Engineer District, Alaska (USACE), the U.S. Air Force Center for Environmental Excellence (AFCEE), and the Federal Aviation Administration. Prior to joining OHM in 1995, Harry was employed in Alaska for 11 years as an environmental engineer by the oil industry (3 years) and consulting engineering firms (8 years). Mr. Ehlers' project experience includes site investigations, remedial action planning, and design; waste management; oil spill contingency planning and response; and regulatory compliance, auditing, and permitting.

Experience

Mr. Ehlers' federal government experience includes projects under the U.S. Army Corps of Engineers' Defense Environmental Restoration Program (DERP), and the U.S. Air Force's Installation Restoration Program (IRP). Specific work experience includes:

- DDT Soil Removal, Aniak, AK–Technical lead and quality control manager for a 1995 USACE project for the Federal Aviation Administration (FAA) Station in Aniak, Alaska. The primary objective of the project was the delineation of DDT, lead and petroleum hydrocarbon contaminated soils using on-site laboratory equipment and methods comparable with a commercial laboratory, followed by selective removal of 139 cubic yards o soil and transportation to an off-site disposal site. The work also included an underground storage tank site assessment and abandonment of two existing monitoring wells.

- PCB Soil Removal and Landfill Capping, King Salmon, AK–Quality assurance manager for two 1995 USACE projects in King Salmon, Alaska for the U.S. Air Force. The projects involved delineation/removal of less than 50 cubic yards of PCB contaminated soils from a former White Alice Communication Building site and construction of a non-RCRA soil cap for a former 1.6 acre demolition waste landfill site.

- Asphalt Recovery from Landfill, Elmendorf AFB, AK–Project engineer for a 1995 AFCEE project at Elmendorf Air Force Base, Alaska, involving

delineation, interception, and recovery of waste asphalt from a former construction/ demolition landfill site. Additional recovery work will be performed in 1996.

- Chemical Agent Dump Site, Ft. Wainwright, AK–Project engineer responsible for final report documenting USACE's 1995 intrusive investigation/ excavation of a suspected chemical warfare material (CWM) disposal site located at Ft. Wainwright, Alaska, for the U.S. Army. The presence of suspected CWM, including mustard, Lewisite, chloropicrin, and phosgene, was screened by on-site air monitoring and soil sampling, with subsequent air monitoring and laboratory analytical documentation of the absence of these materials to support site closure by state and federal agencies.

- Hydrocarbon-contaminated Soil Removal, CRREL Alaska Field Station–Project engineer and quality assurance manager for a planned 1996 USACE project on behalf of the U.S. Army's Cold Regions Research and Environmental Laboratory (CRREL), involving the limited excavation and off-site disposal of petroleum-exclusion hydrocarbon contaminated soils associated with underground storage tanks at CRREL's Fairbanks facility.

Mr. Ehlers' private industry/commercial experience in hazardous materials and solid waste management includes the following:

- Site Assessments and Remedial Investigations, Cook Inlet, AK–As project manager and client representative for Marathon Oil Company's Alaska Region from 1990 through 1994, performed project scoping, budgeting, contracting, and administration of third-party contractors carrying out site assessments, remedial investigations, and monitoring programs to define the nature and extent of soil and groundwater contamination at three onshore oil production/processing facilities. The largest facility, encompassing approximately 160 acres, included extensive areas of crude oil contaminated soil, unlined pits containing sludge and tank bottoms, free product on groundwater, and a benzene plume reaching the adjacent marine water body.

- Risk Assessment/Feasibility Study, Cook Inlet, AK–As project manager and client representative for Marathon Oil Company's Alaska Region, performed project scoping, budgeting, contracting, and administration of a 1994 combined risk assessment/feasibility study to identify engineering alternatives for soil and groundwater remediation, including negotiation of cleanup standards with the State of Alaska.

- Remediation Pilot Projects, Cook Inlet, AK–As project manager and client representative for Marathon Oil Company's Alaska Region, managed the 1994 third-party design of a free product recovery system and a pilot project to evaluate soil vapor extraction (SVE), bioventing, and air sparging feasibility for cleanup of crude oil contaminated soils and groundwater.

- Underground Storage Tank Site Assessment and Removal, Trading Bay, AK–As an Advanced Environmental Engineer for Marathon Oil Company's Alaska Region, scoped and administered a third-party site assessment of two 10,000 gallon underground storage tanks historically used for unleaded gasoline and diesel; developed the scope of work, technical specifications, and competitively procured contractors to remove, clean, and dismantle the tanks and thermally treat 225 cubic yards of hydrocarbon contaminated soil.

- Soil Remediation and Disposal Operations, Cook Inlet, AK–As an Advanced Environmental Engineer for Marathon Oil Company's Alaska Region from 1991 through 1994, performed environmental permitting, regulatory compliance, and quality control for *ex situ* soil remediation projects based on low-temperature thermal (10,000 tons), land farming (30,000 tons), solidification/landfilling of oily solids (10,000 tons), and deep well injection of produced waters and solids from exploration and production activities.

- Hazardous Waste Management, Cook Inlet, AK–As an Advanced Environmental Engineer for Marathon Oil Company's Alaska Region from 1991 through 1994, prepared and implemented a Regional solid and hazardous waste management program for RCRA and TSCA compliance, including annual worker training and compliance auditing. As the solid waste manager for the Region, was responsible for hazardous waste characterization, inventory control, transportation, and disposal of wastes from 5 onshore facilities and 4 offshore oil/gas production platforms.

Professional Affiliations

Society of American Military Engineers, Alaska and Seattle Chapters
Solid Waste Association of North America, Alaska Chapter President, 1993-1995

Specialized Training

OSHA 8 hour HAZWOPER refresher, 1995
OSHA 8 hour HAZWOPER supervisor training, 1992
OSHA 40 hour HAZWOPER training, 1987
CFR 49/HM 181 and ICAO/IATA Hazardous Materials Transportation, 1992, 1994
Incident Command System/OSERMS Training, 1992, 1993, 1994
Bioremediation Engineering: Design and Applications, 1993
Bioventing: Principles, Applications, and Case Studies, 1993
Supervision of Asbestos Abatement Projects, 1986

Professional Registrations

Professional Engineer, Civil, Alaska - 1989, Registration No. CE7864
Professional Engineer, Civil, Washington - 1994, Registration No. 0031628

Todd A. Hiltunen
Project Superintendent

Expertise

Excels at completing projects in a timely, cost-effective manner, with in depth knowledge of state and local regulations. Excellent project coordination and crew supervision skills, with the ability to readily identify or anticipate problems and recommend resourceful solutions.

Experience

Mr. Hiltunen has seven years experience as a field technician and a project superintendent in the environmental field. Representative samples of his project experience are described below:

- Field Technician for site cleanup of various refined petroleum products, acids and methanol which were spilled at several different sites along the Dalton Highway in remote Alaska. Responsibilities included assisting crew in the cleanup of these products in the most expedient and cost-effective manner.

- Mr. Hiltunen served as Field Technician for site cleanup at Dunbar, Alaska where 19 train cars derailed and spilled 180,000 gallons of diesel and jet fuel. Responsibilities included recovery and cleanup of these products.

- Functioned as Project Superintendent/Field Technician for site cleanup at FAA facility in Kotzebue, Alaska where 2000 gallons of heating oil were spilled. Responsibilities included coordination and execution of all phases of the project.

- Served as Field Technician for drum recovery project for the U.S. Army Corps of Engineers at Ft. Wainwright, Alaska. Responsibilities included locating orphaned drums, evaluating drum conditions, and emptying or overpacking them according to the client's instructions.

- Project Superintendent for site cleanup at Anaktuvuk Pass, Alaska where 8000 gallons of diesel fuel were spilled in a lined dike that was full of snow. Responsibilities included coordinating with client to schedule work and to supervise a six-man field crew to perform quality work efficiently and safely.

- Project Superintendent for construction and operation of a soil remediation cell at Anuktuvuk Pass, Alaska. Responsibilities were to coordinate with client to schedule work and to supervise a eight-man crew to perform quality work efficiently and safely.

- Project Superintendent for site cleanup at Bethal, Alaska where 114,000 gallons of diesel fuel were spilled over the frozen tundra. Responsibilities included dealing directly with client and to supervise a 25-man field crew, placing key personnel in proper positions to accomplish the cleanup efforts in the most cost-effective manner.

- Project Superintendent for construction and operation of four 125-cubic-yard composting cells at Eielson AFB, Alaska. Responsibilities included direct reporting of daily work schedules and progress to the client and to supervise a six-man field crew to perform quality work efficiently and safely.

- Project Superintendent for construction of soil-lined remediation cells and a HDPE-lined cell with leachate collection on National Priority List site at Eielson AFB, Alaska. Responsibilities included direct reporting of daily work plans and progress to the client; scheduling and delivery of all materials and equipment; and supervising a six-man field crew to perform quality work efficiently and safely.

- Project Superintendent at Mullins Pit on Eielson AFB, Alaska. Responsibilities included direct reporting to the client and supervision of a six-man field crew during the construction phase of a wetland restoration in which an abandoned gravel pit and several small ponds were interconnected to create wetland habitat.

- Project Superintendent for construction and operation of a 20,000-cubic-yard contaminated soil landfarm at Eielson AFB, Alaska. Responsibilities were to report directly to the client daily work plans and progress, to schedule and deliver all materials and equipment, and to supervise a four-man field crew to perform quality work efficiently and safely.

- Project Superintendent for UST removal/replacement/retrofit project at Elmendorf AFB, Alaska. Responsibilities were to supervise a 12-man field crew for an ongoing UST project involving removal, replacement, and/or upgrade to 47 USTs. Reported directly to client daily work schedules and progress.

- Project Superintendent for tank demolition at Elmendorf AFB, Alaska. Responsibilities were to supervise a 6 man field crew in a efficient and safe manner during the cleaning, cutting and disposing of 60 removed USTs.

- Project Superintendent for UST removal/replacement at Kulis ANG, Alaska. Responsibilities were to supervise a 6 man field crew for an ongoing UST project involving removal and replacement of 13 USTs.

- Project Manager/Project Superintendent for UST tightness testing for the State of Alaska DOT. Responsibilities included supervision of field crews at various remote locations throughout the state of Alaska, and to perform tightness testing several hundred USTs ranging from 50 gallons to 10,000 gallons.

- Project Superintendent for UST tightness testing at Eielson AFB, Alaska. Supervised five-man field crew during the tightness testing of 50 USTs ranging from 100 gallons to 10,000 gallons.

- Project Superintendent for UST tightness testing at Galena AFB, Alaska. Supervised three-man crew during the tightness testing of two 1,050,000-gallon USTs.

- Project Superintendent for UST removal at Fairbanks, Alaska. Supervised crew during the removal of 13 USTs for the City Of Fairbanks.

- Project Superintendent for UST tightness testing at Fairbanks, Alaska. Supervised crew during the tightness testing of 37 USTs of the Fairbanks North Star Borough.

- Project Superintendent for AST tightness testing at Eielson AFB, Alaska. Supervised crew and assisted Tracer Research Corp. in the tightness testing of six 300,000-gallon ASTs.

Specialized training

40-Hour HAZWOPER course
8-Hour HAZWOPER update course
8-Hour Speed Shore Corp. Trench and Excavation Safety Seminar
Petcon Inc. Contractors Guide to UST Installation course
Petcon Inc. Contractors Guide to UST Closure course
Tracer Research Corp. Tracer Tight Leak Detection certification
Horner Creative Products, Inc. UST tightness testing certification
Corps of Engineers Construction Quality Management Course
UST workers license for the State of Alaska for Installation, Closure and Tightness Testing
Hartmann Management Petroleum Storage System Worker Course
Industrial First Aid and Adult CPR
Alaska Clean Seas Incident Command System certification
8-Hour HAZWOPER Supervisor's Course
Water Quality Technician Training
IFCI UST Decommissioning certification
IFCI UST Installation/Retrofitting certification
IFCI UST Tightness Testing certification

Cris Jespersen, P.E.
Northwest Division Manager

Education

B.S., Chemical Engineering, University of California, Davis, 1982

Expertise

Process design and development of engineered systems for on-site treatment of hazardous and industrial wastes; management of field remediation projects, with special experience in the design and implementation of bioremediation and vapor extraction systems; and the commercialization and marketing of emerging and innovative technologies.

Experience

Mr. Jespersen joined OHM in 1990 with eight years experience in process engineering and project management in the chemical industry including involvement in process development, and plant design, startup, and operation. He is currently responsible for management of design and construction of remediation processes involving innovative treatment methods (e.g., bioremediation, soil vapor extraction, soil washing). Mr. Jespersen also serves as a project manager under OHM's Naval Energy and Environmental Support Activity (NEESA) contracts for the remediation of sites contaminated with petroleum compounds and pesticides.

Mr. Jespersen' experience is highlighted below:

- Naval Facilities Engineering Command, Southwest Division, Deputy Program Manager - Mr. Jespersen serves as Deputy Program Manager for OHM's Southwestern Division (SWDIV) Remedial Action Contract. Responsible for operation of remedial action delivery orders under this $250 million RAC, including preparation of cost proposals, negotiation of individual delivery orders, resource allocation (project managers, superintendents, technical staff, equipment) to execute awarded delivery orders, and cost and schedule management for the program. During the final six weeks of FY '94, the program team under Mr. Jespersen's direction scoped, estimated, negotiated, and was awarded over $22 million in CPAF-type delivery orders, allowing SWDIV to meet its goals for FY '94 and gain swing funding for additional remedial action.
- Naval Facilities Engineering Service Center, Program Manager - Mr. Jespersen serves as Program Manager for OHM's NEESA (now NFESC) Remedial Action Contracts (RACs). Mr. Jespersen is responsible for management of the $42 million POL and $10 million Pesticides contracts to remediate hazardous waste at naval facilities nationwide. Projects have utilized a variety of on-site remedial methods including bioremediation, vapor extraction, bioventing, incineration, stabilization, soil washing, as well as off-site recycling and disposal. Remote locations such as NAF Midway Island in the Central Pacific Ocean, Chocolate Mountain Aerial Gunery Range in Southeastern California, and NS Roosevelt Roads in Puerto Rico required extensive planning to ensure the availability of

adequate manpower, equipment, and supplies while meeting S/SDB subcontracting goals. Over 30 of the 54 delivery orders awarded have been successfully completed.

- NEESA - Project Manager for the design, installation, and operation of a treatment system for RDX- and TNT-contaminated groundwater at the Bangor Submarine Base. Over 1.5 miles of piping will be installed to connect the extraction and reinjection wells to a 300 gpm treatment system using ultraviolet oxidation and activated carbon technologies.
- USACE - Project Manager for the design, installation, and operation of a soil vapor extraction system at the Sacramento Army Depot. The system will be used to remediate burn pits contaminated with PCE, TCE, and BTEX.
- NEESA - Project Manager for the removal of dieldrin-contaminated soil at Naval Supply Center - Pearl Harbor. The project includes excavation, containerization, and disposal of 1,000 cubic yards of contaminated soil, placement of engineered backfill, and management of contaminated water.
- Confidential Client - Technical Manager for the design, fabrication, and operation of a bioslurry reactor system for the treatment of biphenyl- and naphthalene-contaminated soil at a former chemical plant in the Southeast. Bench-scale treatability were performed to establish the design basis for the continuous-flow bioreactor. The 10 T/day system includes an attrition scrubber, bioslurry reactors, and vacuum filter for dewatering.
- Confidential Client - Technical Manager for the design, fabrication, and operation of a pilot-scale bioslurry reactor system for the treatment of PAH-contaminated soil at a former manufactured gas plant site in the Northeast. The treatment system utilizes a novel chemical-biological process for the treatment of coal tar residuals.
- Southeastern Wood Preserving - Technical Manager for the design, scale up and operation of a bioslurry reactor system for the treatment of creosote-contaminated soil at a Superfund site in Mississippi. OHM has designed and installed four 200,000 gallon bioslurry reactors for the treatment of contaminated material. Soils are pre-treated using a soil washing system also designed by OHM. Extensive treatability studies were performed to optimize the kinetics of the bioremediation process. The results from these studies were used to develop the process design for 50 gallon and 500 gallon pilot-scale systems, and finally the 200,000 gallon units for the full-scale system.
- Confidential Client - Project Manager for an ex situ bioventing system. OHM designed and installed a totally enclosed enhanced bioremediation system that combines vapor extraction and bioremediation of mixed volatile and semi-volatile hydrocarbons. The material was treated to meet California Regional Water Quality Control Board standards for on-site disposal.

- Confidential Client - Project Manager for a 2 acre engineered land treatment operation at a site contaminated with diesel fuel. The land treatment system was composed of a HDPE lined treatment cell, leachate collection system, and rainwater management system. The diesel contaminated soil was treated to Washington DOE Class 2 standards (TPH-D ≤ 200 ppm).

- CalMat - Project Engineer for a 32 acre site contaminated with heavy weathered hydrocarbons (remedial cleanup cost - $1.4 million). OHM used land treatment to remediate the hydrocarbon-contaminated soil. The results from extensive laboratory treatability studies were used in the field to increase the rate of biodegradation. OHM completed remediation of the site in November, 1991 in accordance with the closure agreement established by the California Regional Water Quality Control Board.

- Concord Resources Group - Project Engineer for the design of a greenfield TSDF to be located in Clarion County, Pennsylvania. The proposed $250 million facility will include incineration, chemical treatment, solvent recovery, solidification/stabilization, and landfill systems. Mr. Jespersen supervised the design of the physical/chemical treatment, waste water treatment and solvent recovery systems, coordinated the administration of the engineering subcontract, and assisted in the preparation of the RCRA Part A permit for the facility.

Prior to joining OHM, Mr. Jespersen was involved in the design and commercialization of gas separation systems using both membrane and carbon adsorption technology. These systems were utilized in a variety of industries including refining, food processing, mining, and hazardous waste disposal. He was also responsible for the fabrication, installation, and initiation of these units.

Mr. Jespersen served as project manager for the construction of several gas manufacturing facilities. As project manager, his responsibilities included supervision of the design engineering team, on-site construction management, and initial startup and operation of the facilities. In addition, he was involved in obtaining the plant's FDA license for the manufacture of drugs and medical devices.

Mr. Jespersen has designed several reactors for the purification of oxygen and hydrogen, and the manufacture of acetylene. He participated in the selection of catalyst, materials of construction, instrumentation, and safety review of this equipment.

Specialized Training

OSHA 40 hour hazardous waste training, 1990
OSHA 8 hour supervisor training, 1991
OSHA 8 hour refresher training, 1992, 1993
Managing Total Quality, 3M Corporation, 1989
Objective Zero Accidents, Safety Management Course, DuPont Corporation, 1986

Professional Registrations and Affiliations

Registered Chemical Engineer, California
Member, American Institute of Chemical Engineers
Member, Forest Products Research Institute

Selected Publications

Jespersen, C., D.E. Jerger, B.P. Greenwald, J.A. Meardon, J.H. Exner, W.A. Barkley, and C.W. Bryant, 1992, "Biological Treatment of PCP- and Creosote-Contaminated Groundwater." Paper presented at the I&EC Special Symposium of the American Chemical Society, September 21 - 23.

Jespersen, C., Exner, J.H., and Jerger, D.E., "Bioremediation Tackles Hazardous Waste" *Chemical Engineering*, June 1993.

Jespersen, C., K.D. Baugh, and J.H. Exner, 1993, "Bioslurry Reactor Treatment of Contaminated Soil and Refinery Sludge." Paper presented at the I&EC Special Symposium of the American Chemical Society, September 27 - 29.

HART CROWSER, INC.

BOBBY JOHNSON

Staff Chemist, Mobile Laboratory - Organics and Inorganics

EDUCATION

Graduate school in Chemistry, University of Mississippi
B.A. Chemistry, 1977, University of Mississippi
Quality Improvement Process and Quality Education Systems courses, Crosby Quality College

PROFESSIONAL EXPERIENCE

Bobby Johnson has 14 years of experience as an environmental chemist and hazardous waste specialist. He has performed Title II investigation and construction-related oversight at multiple DOD installations. He is currently stationed at NAF Adak supporting the Navy's caretaker support office (CSO).

PROFESSIONAL ASSOCIATIONS

American Chemical Society

REPRESENTATIVE PROJECT EXPERIENCE

- Title II Environmental Support Services, NAF Adak, AK. Senior environmental specialist overseeing Navy caretaker contractor in support of CSO. Responsible for coordinating on-site contractors and verifying compliance with environmental regulations. Specific work elements include oversight of landfill operations, hazardous waste handling and disposal, compliance sampling including NPDES and air monitoring, and drinking water and wastewater facility operations.

  Mr. Johnson functions as part of the Navy's CSO on a long-term 12-month assignment during facility decommissioning under BRAC. Additional duties include participating in off-island regulatory and federal facility environmental round table meetings.

- Emergency Response and Sampling Support. Field Manager for sampling team after a major train spill of fuming anhydrous (98%) nitric acid. Chief chemist for mobile laboratory operations in Mexico. Work included analyses for PCBs, fuels, pesticides, and volatiles by GC, and metals by flame AA. Field Manager for sampling team using field kits, including immunassays and Hanby kits to perform on-site screening of field samples for TPH, PAHs, PCBs, etc. Performed non-routine sampling analysis at a number of remote sites in Alaska.

- US Army Corps of Engineers, St. Paul and St. George, Pribilof Islands, AK. Perform work in support of an environmental assessment by the Corps of Engineers for NOAA. Assist in transport of laboratory equipment and supplies to two remote island in the Bering Sea. Provide 24-hour turnaround on soil samples. Perform fuel identification and quantitation by GC-FID, pesticide and

PCB by GC-ECD, aromatic volatiles by GC-PID, and PAHs by Immunoassay. Perform work on a rush basis on short notice in late fall. Generate results for 500 samples used to direct expansion of the sampling program. Work 12 hours a day, seven days a week, for two months.

- US Army Corps of Engineers, Fort Lewis, WA. The Corps of Engineers pilot tested a remediation technology for removal of chlorinated volatiles from a landfill. Work in the *FAST 2* mobile laboratory during three continuous days, 24 hours a day providing on-site gas chromatographic analyses for chlorinated volatiles in soil gas. The target compounds were tetra-, tri-, and dichloroethene, and vinyl chloride. Assist in assembling analytical results into final report to Corps.

- Water Quality Investigation, PEMEX, Coatzacoalcos, Veracruz, Mexico. Assist in preparation, transport, and setup of Hart Crowser's large mobile laboratory from Seattle, Washington, to Coatzacoalcos in southern Mexico. Chief chemist for mobile laboratory operations in Mexico. Work included analyses for PCBs, fuels, pesticides, and volatiles by GC, and metals by flame AA in support of a wastewater quality study. Round-the-clock sampling from 12 discharges was accomplished over a period of 46 days.

- Weyerhaeuser/Dupont, Dupont, WA. Work in the mobile laboratory to support the remediation of a large former explosives manufacturing site. Test for Nitrotoluenes by GC-ECD and Petroleum Hydrocarbons by IR. The project lasted three months.

- US Army Corps of Engineers, Fort Lewis, WA. Perform lead in paint analyses for building survey.

- US Army Corps of Engineers, Umatilla, WA. Perform lead in paint analyses for building survey.

- Performs PCB, PAH, and PCP immunoassay tests in support of field investigations and remediation projects. Serve as corporate resource for immunoassay test information.

- Assemble GC laboratories and perform EPA GC analyses.

- Use EPA methods to analyze trace organics by GC, and trace metals by GFAA, CVAA, and AA.

- Consult with clients and perform non-routine sampling and analyses for a wide range of clients for an independent chemical laboratory.

- Perform EPA wet chemistry analyses.

- Performs duties as Laboratory Health and Safety Representative.
- Perform duties required by state and federal regulation to track the laboratory hazardous materials inventory and dispose of spent material generated by laboratory.
- Project field manager for sampling teams, including one for major train spill of hazardous material.
- Plan and initiat solvent recycling and waste minimization programs, reducing hazardous waste by 80 percent.
- Control a 1,000+ item chemical inventory and associated MSDS forms.
- Prepare air, water, and Part "A" permits for a polymer plant, and double the amount of waste consumed as fuel for the polymer plant.
- Write Community Right-To-Know Plans, Safety Manuals, and HazCom Programs and assisted a contracted industrial hygienist in writing Chemical Hygiene Plan for an independent laboratory.
- Manage a polymer plant lab involving hiring, developing, and supervising lab technicians and manufacturing QC inspectors; budgeting; and equipment purchases.
- Five years experience as safety coordinator in both laboratory and manufacturing environments.
- Supervise a technical laboratory shift supporting automotive catalyst production using platinum, palladium, and rhodium.

Emma P. Popek
Field Analytical Services Manager

Education

Ph.D. (Equivalent), Inorganic Chemistry, USSR Academy of Sciences, Leningrad, USSR, 1979
M.S. in Chemistry, University of Leningrad, USSR, 1972
B.S. in Chemistry, University of Leningrad, USSR, 1971

Expertise

Environmental analytical chemist and laboratory manager of eight years of experience specializing in field analytical services.

Experience

Emma Popek has over 20 years of experience in analytical chemistry and environmental analysis and 8 years of experience in managing stationary and mobile environmental laboratories. She has extensive experience in data interpretation, Quality Assurance/Quality Control, and resolution technical issues. She also conducts research on new methods of field analysis and has made numerous presentations related to new method development.

- As Field Analytical Services Manager, she is in charge of a group of field and project chemists providing technical support for remediation projects: field analytical and sampling services, chemical data acquisition and interpretation, quality control and quality assurance. She reviews and approves Sampling and Analysis Plans, Chemical Data Acquisition Plans, Remedial Action Reports, Laboratory Scope of Work and other submittals and procurement documents related to remediation projects. She is also in charge of installation and operation of analytical laboratories supporting remediation projects in remote locations. Among the current and recently successfully completed projects requiring field analytical support are the Navy PACDIV Midway and Johnston Atolls projects, and the USACE Aniak FAA Station, Alaska. Under her direction, the Midway analytical laboratory is underground an NFESC approval process. She also serves as a technical resource to the clients and colleagues with respect to chemical data interpretation and quality control/quality assurance, participates in the marketing efforts and provides in-house training on chemical data acquisition issues.

- In her prior positions as Laboratory Director for Onsite Environmental Laboratories, Inc., Coast-to-Coast Analytical Services and GTEL Environmental Laboratories she oversaw the technical and administrative operations of the stationary and mobile laboratories, maintained the quality

of work, ensured the timeliness of services, planned and effected laboratory growth, controlled budgets, and participated in sales and marketing efforts. She also conducted full scale project management and methods development, actively participated in client services, resolved technical issues related to final data interpretation, and provided technical assistance to ensure compliance with State and Federal laws and regulations.

- She was instrumental in the audit process of Onsite Environmental Laboratories, Inc. by the USACE: upon completion Onsite became the first mobile laboratory in the country to obtain a blanket certification by the U.S. Army Corps of Engineers.

- Under her leadership, GTEL Environmental Laboratories in Concord grew from a small-scale UST-oriented operation to a 45 person full-service multi-specialty laboratory which was certified and accredited by 18 states, approved by A2LA and major petroleum and chemical companies. Before being promoted to the position of Laboratory Director, she supervised the GC/HPLC section at GTEL and was involved in development of the QA/QC program for the lab. She was responsible for purchasing analytical instrumentation, automating and computerizing the analysis, developing methods, certifying the laboratory by CADHS, troubleshooting and repairing equipment, as well as hiring and training personnel.

- As Senior Environmental Chemist for Clayton environmental Consultants, she conducted routine and special analysis for volatile organics and trace level pesticides by a variety of Environmental Protection Agency Methods. She participated in method 531.1 validation study and developed an HPLC method for formaldehyde analysis.

- As Petroleum Chemist for Gulf Oil Exploration Company she performed instrumental analysis and methods development for GC, HPLC, MS, TLC/FID. Interpreted and reported of exploration geochemical data, including source rock evaluation and oil to oil/source rock correlations.

- As Research Scientist at the USSR Academy of Sciences she studied the structures of hydroxyl containing minerals by IR spectroscopy, delivered presentations at scientific meetings, and numerous publications on the topic of her research.

Specialized Training

40 Hour OSHA Hazardous Waste Operations, 29 CFR 1910.120, 1993
8 hour Annual Refresher, 29 CFR 1910.120, 1994
GLP and ISO9000 Standard, 1992
The State of Toxic Substances in the Environment, 1990
Basic Personnel Law, 1990

Region Nine: Environmental Regulations, 1989
Managing Marginal Employee, 1989
Conducting Employee Performance Evaluation, 1989
High Performance Liquid Chromatography, 1983
Capillary Chromatography, 1982

Professional Certifications

Certified Hazardous Materials Manager, 1991

Mark Scanlon
Project Manager

Education
B.B.A., Finance, University of Massachusetts, 1988

Expertise
Experience in a wide range of remedial technologies including stabilization, excavation, soil vapor extraction, *in situ* and *ex situ* bioremediation, and emergency response. Eight years of experience with federal and commercial clients. Responsibilities have included cost engineering, all aspects of cost estimation, proposal preparation, and project management.

Experience
Since joining OHM in 1988, Mr. Scanlon has actively participated in both remedial and emergency response projects. His responsibilities include project accounting, cost/schedule engineering, cost estimating, and project management. Mr. Scanlon's recent project experience includes:

- Cost Engineer for a $12 million fixed/unit price contract for stabilization of acid sludge refinery waste at Chevron USA Refinery, Richmond, California. Responsibilities included troubleshooting treatment plant efficiency, schedule and cost reporting, invoicing.
- Cost Engineer/Cost Estimator for a $42 million ID/IQ contract for nationwide environmental services to the Naval Facilities Engineering Services Center. Responsibilities included production of extensive monthly cost and schedule report, cost estimating, and delivery order negotiation.
- Cost Estimator for OHM's Northern California District. Cost estimate preparation in support of ID/IQ delivery orders, fixed price commercial, and major government programs.
- Estimating Manager for a $250 million ID/IQ contract for environmental services to Southwest Division Naval Facilities Engineering Command. Responsibilities included cost estimating, staffing of Southern California Estimators and Cost Engineers, management of the estimating function, delivery order negotiation, and conducted estimating and cost training to Navy personnel. The estimating function maintained a level one award fee rating for the duration of assignment.
- Project Manager for multiple delivery orders under OHM's AFCEE ID/IQ contract; a landfill debris removal/capping project, and a pipeline removal/biotreatment project at a remote radar station in Alaska. Both projects received a level one award fee rating.
- Project Manager for multiple fixed price delivery orders under USACE IDTRA contract; excavation and testing of a former burn pit, a $1.5-million PCB decontamination project in Southeast Alaska, and a storage tank upgrade project.
- Project Manager for multiple delivery orders under OHM's CH_2M Hill FAA Joint Venture. Managed two tank removal/installation projects in remote Alaska where OHM removed multiple underground and aboveground

storage tanks, and installed new aboveground storage tanks, and a building demolition/well abandonment project in remote Alaska.

- Project Manager for a $200K cost reimbursable contract for the removal of debris and covering of a landfill at Elmendorf Air Force Base, Alaska.
- Project Control Technician at a Front Royal, Virginia, EPA emergency plant closure. The project included facility decontamination, water treatment, and tank transfers.
- Participated in the only radiation removal undertaken by EPA Superfund. The one-year project in New York, New York involved numerous agencies and contractors. Managed all site material and equipment logistics as well as maintained the cost control and tracking systems.
- Project Control Technician for drum recovery and sampling in Plattsburg, New York. The project was undertaken during winter and involved a high degree of scheduling and support. Project involved day to day scope changes, cost estimates, and progress reporting.
- Technician on City of Boston, Massachusetts Water and Sewer Commission contract. Project included removing hazardous materials from water and sewer system, excavation, rerouting water service, and the lining of large diameter water pipes.

Specialized Training

40-hour OSHA HAZWOPER Training, 1988
8-hour OSHA Supervisor Training, 1989
8-hour OSHA Annual Refresher, most recent March 1997
First Aid and Adult CPR, most recent November 1996
Hazardous Waste Manifest Training, UC Davis, 1991
Hazardous Materials Management Program, UC Berkeley, 1991-1993
Army Corps Construction Quality Management for Contractors, 1997

HART CROWSER, INC.

RYAN SEELBACH
Staff Geologist

EDUCATION

M.S. Earth Science, University of California, Santa Cruz, CA, 1994
B.A. Earth Science, University of California, Santa Cruz, CA, 1992

PROFESSIONAL CERTIFICATION

Nuclear Soil Probe Certification
EnSys Immunoassay Field Test Kit Certification

PROFESSIONAL EXPERIENCE

Mr. Seelbach is a geologist specializing in soil and groundwater investigations. He has participated in numerous field operations, including, monitoring well sampling, geoprobe, hydropunch, CPT and soil vapor sampling. His experience includes report preparation, data analysis and procurement.

REPRESENTATIVE PROJECT EXPERIENCE

Soil and Groundwater Projects

- Staff Geologist on an Environmental Baseline Survey (EBS) at the Alameda Naval Air Station, CA, BRAC site to determine if specific parcels are sufficiently free of contamination to allow property transfer for a Remedial Action Contract (RAC) prior to base closure and conversion to civilian uses. Additional work includes construction support by sampling of the soil and groundwater to determine if there have been potential leaks from the sewer systems, USTs, ASTs, RR cars, gasoline stations, defueling sites, spills, ammunition depots, aircraft wash down sites, landfills, housing complexes, etc. In all cases, the contaminants of concern include heavy metals, TPHs, SVOCs, VOCs, PCBs, pesticides, and low-level radioactivity. The Parcel Reports for Phase 2 were reviewed and submitted in support of the Findings of Suitability to Lease (FOSL), the primary contractor, the Navy, and the California EPA.

- Project Geologist on a lead assessment and abatement project at Mare Island Naval Shipyard, Vallejo, CA in support of a Remedial Action Contract. This two month project involved the collection of over 900 samples to locate and remove soils impacted by lead-based paint around 50 apartment units. The action levels followed EPA and HUD guidelines for the transfer of property to the City.

- Project Geologist at Hunters Point Naval Shipyard assigned to the pre-construction assessment of petroleum products and debris in a landfill slated for remediation. Geoprobe sampling and CPT results identified the location of sheet piles walls prior to the installation of groundwater extraction systems and monitoring wells.

- Project geologist and chemist at a former FAA facility on Annette Island, Alaska assigned to sample and analyze field screening samples for PCBs prior to all remedial activities. Confirmations samples were sent to a validated laboratory using USACE procurement standards for a final verification of the remedial efforts. The facility is aligned for reuse as a saw mill.

- Assisted and managed numerous characterizations and closures of petroleum contaminated sites throughout Bay Area. Includes permitting, quarterly monitoring well sampling, soil sampling, underground tank and hoist removals.

Geotechnical Experience

- Executed soil compaction testing with a Nuclear Soil Probe and pier drilling observations prior to construction of roadways and foundations for geotechnical engineering projects. Performed laboratory operations including soil density, moisture, stress, and elasticity curves.

PUBLICATIONS

Seelbach, RR, GB Griggs, 1994, Shoreface Sediments in Northern Monterey Bay, CA- Grain-size Distributions and Transport Boundaries, American Geophysical Union, Fall Meeting.

Appendix B
Submittal Register

SUBMITTAL REGISTER (ER 415-1-10)																							CONTRACT NO. Updated: 9/25/97 DACA63-94-D-0017 DELIVERY ORDER NO. 0009	
TITLE AND LOCATION Annette Island PCB Removal													CONTRACTOR OHM Remediation Services 5730 B Street, Anchorage, AK 99518										SPECIFICATION SECTION Division 1, 2	
				TYPE OF SUBMITTAL									CLASSIFICATION		CONTRACTOR SCHEDULE DATES			CONTRACTOR ACTION			GOVERNMENT ACTION		OHM PROJECT NO. 19067	
TRANSMITTAL NO.	ITEM NO.	SPECIFICATION PARAGRAPH NUMBER	DESCRIPTION OF ITEM SUBMITTED	DATA	DRAWINGS	INSTRUCTIONS	SCHEDULES	STATEMENTS	REPORTS	CERTIFICATES	SAMPLES	RECORDS	INFORMATION ONLY	GOVERNMENT APPROVED	SERVICES	SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	CODE	DATE	SUBMIT TO GOVERNMENT	CODE	DATE	REMARKS
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	k.	l.	m.	n.	o.	p.	q.	r.	s.	t.	u.	v.	w.	x.	y.
NOTE: MOST SUBMITTALS HAVE BEEN CONSOLIDATED INTO PLANS AND THEIR CORRESPONDING ACRONYMS AND ITEM NUMBERS SHALL BE USED AS THE TRANSMITTAL TRACKING NUMBER																								
01010-1 01010-1A 01010-1B	1	01010-1, 1.1	DRAFT WORK PLAN (WP)						X					X		8/19/96	9/3/96				8/16/96 9/20/96 11/22/96	C C A	9/4/96 10/23/96 11/27/96	
01010-2 01010-2A 01010-2B 01010-2C	2	01010-1, 1.1	FINAL WORK PLAN (WP)						X					X		9/9/96	--				9/20/96 4/10/97 4/10/97 4/28/97	C A E A	10/11/96 4/14/97 4/23/97 5/5/97	
01010-3	3	01010-2.1, 2.2	DRAFT REMEDIAL ACTION (RA) REPORT						X					X		12/16/96	1/17/96				9/30/97			
	4	01010-2.1, 2.2	FINAL REMEDIAL ACTION (RA) REPORT						X					X		12/15/97	1/15/97							
01120-1 01120-1A 01120-1B 01120-1C 01120-1D 01120-1D 01120-2	1	01120-1.3, 1.8.3	WASTE MANAGEMENT PLAN (WMP)						X					X		8/19/96	9/3/96				8/16/96 9/20/96 9/20/96 11/22/96 4/11/97 4/30/97 9/25/97	C B C A E B A	9/4/96 10/11/96 10/23/96 11/27/96 4/23/97 5/7/97 11/27/96	
01450-1 01450-1A 01450-1B 01450-1C	1	01450-1.3	SAMPLING AND ANALYSIS PLAN (SAP)						X					X		8/19/96	9/3/96				8/16/96 9/20/96 9/20/96 11/22/96	C C C A	9/4/96 10/11/96 10/23/96 11/27/96	
02080-1 02080-1A 02080-1B 02080-1C 02080-1D	1	13282	ASBESTOS HAZARD ABATEMENT PLAN						X					X		8/19/96	9/3/96				8/20/96 9/20/96 9/20/96 9/24/96 10/30/96	C B B B A	9/4/96 10/9/96 10/21/96 10/21/96 11/27/96	Review: EN-G-MI (ferrell)

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Company OHM-WESTERN REGION/CRC

Address 5731 W LAS POSITAS BLVD

Dept/Floor/Suite/Room

City PLEASANTON State CA ZIP 94588

2 Your Internal Billing Reference Information (Optional) (First 24 characters will appear on invoice) 19087

3 To (please print and press hard)

Recipient's Name HARRY EHLERS Phone ( )

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4a Express Package Service *Packages under 150 lbs.* Delivery commitment may be later in some areas.

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*FedEx Letter Rate not available. Minimum charge: One-pound rate.

4b Express Freight Service *Packages over 150 lbs.* Delivery commitment may be later in some areas.

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- [ ] FedEx 2Day Freight (Second business day)
- [ ] FedEx Express Saver Freight (Up to 3 business days)

(Call for delivery schedule. See back for detailed descriptions of freight services.)

5 Packaging [ ] FedEx Letter [ ] FedEx Pak* [ ] FedEx Box [ ] FedEx Tube [x] Other Pkg.

*Declared value limit $500

6 Special Handling

Does this shipment contain dangerous goods? [ ] Yes (As per attached Shipper's Declaration) [ ] Yes (Shipper's Declaration not required)

[ ] Dry Ice Dry Ice, 9, UN 1845, x kg. (Dangerous Goods Shipper's Declaration not required)

CA [ ] Cargo Aircraft Only

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Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

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1 From (please print and press hard)

Date 9/29/97 Sender's FedEx Account Number 1717-6344-4

Sender's Name Linda Blanch Phone (510) 227-1100

Company OHM-WESTERN REGION/CRC

Address 5731 W LAS POSITAS BLVD

Dept/Floor/Suite/Room

City PLEASANTON State CA ZIP 94588

2 Your Internal Billing Reference Information (Optional) (First 24 characters will appear on invoice) 19087

3 To (please print and press hard)

Recipient's Name HARRY EHLERS Phone ( )

Company OHM REMEDIATION

Address 20015 72nd AVE S. Check here if residence (Extra charge applies for FedEx Express Saver)

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For Saturday Delivery check here (Extra Charge. Not available to all locations) (Available for FedEx Priority Overnight and FedEx 2Day only)

4a Express Package Service *Packages under 150 lbs.* Delivery commitment may be later in some areas.

- [x] FedEx Priority Overnight (Next business morning)
- [ ] FedEx Standard Overnight (Next business afternoon)
- [ ] FedEx 2Day* (Second business day)
- [ ] FedEx Express Saver* (Third business day)
- [ ] FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)

*FedEx Letter Rate not available. Minimum charge: One-pound rate.

4b Express Freight Service *Packages over 150 lbs.* Delivery commitment may be later in some areas.

- [ ] FedEx Overnight Freight (Next business day)
- [ ] FedEx 2Day Freight (Second business day)
- [ ] FedEx Express Saver Freight (Up to 3 business days)

(Call for delivery schedule. See back for detailed descriptions of freight services.)

5 Packaging [ ] FedEx Letter [ ] FedEx Pak* [ ] FedEx Box [ ] FedEx Tube [x] Other Pkg.

*Declared value limit $500

6 Special Handling

Does this shipment contain dangerous goods? [ ] Yes (As per attached Shipper's Declaration) [ ] Yes (Shipper's Declaration not required)

[ ] Dry Ice Dry Ice, 9, UN 1845, x kg. (Dangerous Goods Shipper's Declaration not required)

CA [ ] Cargo Aircraft Only

7 Payment

Bill to: [x] Sender (Account no. in section 1 will be billed) [ ] Recipient [ ] Third Party [ ] Credit Card [ ] Cash/Check

(Enter FedEx account no. or Credit Card no. below)

FedEx Account No.

Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value*	Total Charges
1	30	$ .00	$

*When declaring a value higher than $500 per shipment, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information.

8 Release Signature *Sign to authorize delivery without obtaining signature.*

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

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Conditions, Declared Value, and Limit of Liability – By using this Airbill, you agree to the service conditions in our current Service Guide or U.S. Government Service Guide. Both are available on request. SEE BACK OF SENDER'S COPY OF THIS AIRBILL FOR INFORMATION AND ADDITIONAL TERMS. We will not be responsible for any claim in excess of $100 per package whether result of loss, damage, or delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, and document your actual loss in a timely manner. Your right to recover from us for any loss includes intrinsic value of the package, loss of sales, interest, profit, attorney's fees, costs, and other forms of damage, whether direct, incidental, consequential, or special, and is limited to the greater of $100 or the declared value but cannot exceed actual documented loss. The maximum declared value for any FedEx Letter and FedEx Pak is $500. Federal Express may, upon your request, and with some limitations, refund all transportation charges paid. See the FedEx Service Guide for further details.

Questions? Call 1-800-Go-FedEx (800)463-3339

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FedEx USA Airbill — FedEx Tracking Number 800693659574 — 0200 Form I.D. No. — Sender's Copy

1 From (please print and press hard)

Date 9/29/97 Sender's FedEx Account Number 1717-6344-4

Sender's Name Linda Blanch Phone (510) 227-1100

Company OHM-WESTERN REGION/CRC

Address 5731 W LAS POSITAS BLVD Dept/Floor/Suite/Room

City PLEASANTON State CA ZIP 94588

2 Your Internal Billing Reference Information (Optional) (First 24 characters will appear on invoice) ~~19087~~ 19087

3 To (please print and press hard)

Recipient's Name HARRY EHLERS Phone ( )

Company OHM 20015 72nd ave South

Check here if residence (Extra charge applies for FedEx Express Saver)

Address (To "HOLD" at FedEx location, print FedEx address here) (We Cannot Deliver to P.O. Boxes or P.O. ZIP Codes) Dept/Floor/Suite/Room

City Kent State WA ZIP 98032

For HOLD at FedEx Location check here
Hold Weekday (Not available with FedEx First Overnight) Hold Saturday (Not available at all locations) (Available for FedEx Priority Overnight and FedEx 2Day only)

For Saturday Delivery check here (Extra Charge. Not available to all locations) (Available for FedEx Priority Overnight and FedEx 2Day only)

Service Conditions, Declared Value, and Limit of Liability – By using this Airbill, you agree to the service conditions in our current Service Guide or U.S. Government Service Guide. Both are available on request. SEE BACK OF SENDER'S COPY OF THIS AIRBILL FOR INFORMATION AND ADDITIONAL TERMS. We will not be responsible for any claim in excess of $100 per package whether the result of loss, damage, or delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, and document your actual loss in a timely manner. Your right to recover from us for any loss includes intrinsic value of the package, loss of sales, interest, profit, attorney's fees, costs, and other forms of damage, whether direct, incidental, consequential, or special, and is limited to the greater of $100 or the declared value but cannot exceed actual documented loss. The maximum declared value for any FedEx Letter and FedEx Pak is $500. Federal Express may, upon your request, and with some limitations, refund all transportation charges paid. See the FedEx Service Guide for further details.

4a Express Package Service *Packages under 150 lbs.* (Delivery commitment may be later in some areas)

- [x] FedEx Priority Overnight (Next business morning)
- [ ] FedEx Standard Overnight (Next business afternoon)
- [ ] FedEx 2Day* (Second business day)
- [ ] FedEx Express Saver* (Third business day)
- [ ] FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)

*FedEx Letter Rate not available. Minimum charge: One pound rate.

4b Express Freight Service *Packages over 150 lbs.* (Delivery commitment may be later in some areas)

- [ ] FedEx Overnight Freight (Next business day)
- [ ] FedEx 2Day Freight (Second business day)
- [ ] FedEx Express Saver Freight (Up to 3 business days)

(Call for delivery schedule. See back for detailed descriptions of freight services.)

5 Packaging — [ ] FedEx Letter [ ] FedEx Pak (Declared value limit $500) [ ] FedEx Box [ ] FedEx Tube [ ] Other Pkg

6 Special Handling

Does this shipment contain dangerous goods? [ ] Yes (As per attached Shipper's Declaration) [ ] Yes (Shipper's Declaration not required)

[ ] Dry Ice (Dry Ice, 9, UN 1845) x kg. 904 (Dangerous Goods Shipper's Declaration not required)

CA [ ] Cargo Aircraft Only

7 Payment

Bill to: [x] Sender (Account no. in section 1 will be billed) [ ] Recipient [ ] Third Party [ ] Credit Card [ ] Cash/Check (Enter FedEx acct. no. or Credit Card no. below)

FedEx Account No.

Credit Card No. Exp. Date

Total Packages 1 Total Weight 30 Total Declared Value* $ .00 Total Charges $

*When declaring a value higher than $100 per shipment, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE, AND LIMIT OF LIABILITY section for further information.

8 Release Signature *Sign to authorize delivery without obtaining signature.*

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Questions? Call 1-800-Go-FedEx (800)463-3339

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FedEx USA Airbill — FedEx Tracking Number 800693659633 — 0200 Form I.D. No. — SPL11 Sender's Copy

1 From (please print and press hard)

Date 9/29/97 Sender's FedEx Account Number 1717-6344-4

Sender's Name Linda Blanch Phone (510) 227-1100

Company OHM-WESTERN REGION/CRC

Address 5731 W LAS POSITAS BLVD Dept/Floor/Suite/Room

City PLEASANTON State CA ZIP 94588

2 Your Internal Billing Reference Information (Optional) (First 24 characters will appear on invoice) 19087

3 To (please print and press hard)

Recipient's Name Harry Ehlers Phone ( )

Company OHM Remediation

Check here if residence (Extra charge applies for FedEx Express Saver)

Address 20015 72nd AVE S. (To "HOLD" at FedEx location, print FedEx address here) (We Cannot Deliver to P.O. Boxes or P.O. ZIP Codes) Dept/Floor/Suite/Room

City KENT State WA ZIP 98032

For HOLD at FedEx Location check here
Hold Weekday (Not available with FedEx First Overnight) Hold Saturday (Not available at all locations) (Available for FedEx Priority Overnight and FedEx 2Day only)

For Saturday Delivery check here (Extra Charge. Not available to all locations) (Available for FedEx Priority Overnight and FedEx 2Day only)

Service Conditions, Declared Value, and Limit of Liability – By using this Airbill, you agree to the service conditions in our current Service Guide or U.S. Government Service Guide. Both are available on request. SEE BACK OF SENDER'S COPY OF THIS AIRBILL FOR INFORMATION AND ADDITIONAL TERMS. We will not be responsible for any claim in excess of $100 per package whether the result of loss, damage, or delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, and document your actual loss in a timely manner. Your right to recover from us for any loss includes intrinsic value of the package, loss of sales, interest, profit, attorney's fees, costs, and other forms of damage, whether direct, incidental, consequential, or special, and is limited to the greater of $100 or the declared value but cannot exceed actual documented loss. The maximum declared value for any FedEx Letter and FedEx Pak is $500. Federal Express may, upon your request, and with some limitations, refund all transportation charges paid. See the FedEx Service Guide for further details.

4a Express Package Service *Packages under 150 lbs.* (Delivery commitment may be later in some areas)

- [x] FedEx Priority Overnight (Next business morning)
- [ ] FedEx Standard Overnight (Next business afternoon)
- [ ] FedEx 2Day* (Second business day)
- [ ] FedEx Express Saver* (Third business day)
- [ ] FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)

*FedEx Letter Rate not available. Minimum charge: One pound rate.

4b Express Freight Service *Packages over 150 lbs.* (Delivery commitment may be later in some areas)

- [ ] FedEx Overnight Freight (Next business day)
- [ ] FedEx 2Day Freight (Second business day)
- [ ] FedEx Express Saver Freight (Up to 3 business days)

(Call for delivery schedule. See back for detailed descriptions of freight services.)

5 Packaging — [ ] FedEx Letter [ ] FedEx Pak (Declared value limit $500) [ ] FedEx Box [ ] FedEx Tube [x] Other Pkg

6 Special Handling

Does this shipment contain dangerous goods? [ ] Yes (As per attached Shipper's Declaration) [ ] Yes (Shipper's Declaration not required)

[ ] Dry Ice (Dry Ice, 9, UN 1845) x kg. 904 (Dangerous Goods Shipper's Declaration not required)

CA [ ] Cargo Aircraft Only

7 Payment

Bill to: [x] Sender (Account no. in section 1 will be billed) [ ] Recipient [ ] Third Party [ ] Credit Card [ ] Cash/Check (Enter FedEx acct. no. or Credit Card no. below)

FedEx Account No.

Credit Card No. Exp. Date

Total Packages 1 Total Weight 30 Total Declared Value* $ .00 Total Charges $

*When declaring a value higher than $100 per shipment, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE, AND LIMIT OF LIABILITY section for further information.

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FedEx. USA Airbill FedEx Tracking Number 800693659611 0200 Form I.D. No. Sender's Copy

1 From (please print and press hard)

Date 9/29/97 Sender's FedEx Account Number 1717-6344-4

Sender's Name Linda BLANCH Phone (510) 227-1100

Company OHM-WESTERN REGION/CRC

Address 5731 W LAS POSITAS BLVD Dept./Floor/Suite/Room

PLEASANTON State CA ZIP 94588

2 Your Internal Billing Reference Information (Optional) (First 24 characters will appear on invoice) 19087

3 To (please print and press hard)

Recipient's Name HARRY EHLERS Phone ( )

Company OHM REMEDIATION

Address 20015 72nd AVE S. Check here if residence (Extra charge applies for FedEx Express Saver)

To "HOLD" at FedEx location, print FedEx address here (We Cannot Deliver to P.O. Boxes or P.O. ZIP Codes) Dept./Floor/Suite/Room

KENT State WA ZIP 98032

For HOLD at FedEx Location check here
Hold Weekday (Not available with FedEx First Overnight) Hold Saturday (Not available at all locations) (Available for FedEx Priority Overnight and FedEx 2Day only)

For Saturday Delivery check here
(Extra Charge. Not available to all locations) (Available for FedEx Priority Overnight and FedEx 2Day only)

4a Express Package Service *Packages under 150 lbs.* Delivery commitment may be later in some areas.

- ✓ FedEx Priority Overnight (Next business morning)
- FedEx Standard Overnight (Next business afternoon)
- FedEx 2Day* (Second business day)
- FedEx Express Saver* (Third business day)
- FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)

*FedEx Letter Rate not available. Minimum charge: One-pound rate.

4b Express Freight Service *Packages over 150 lbs.* Delivery commitment may be later in some areas.

- FedEx Overnight Freight (Next business day)
- FedEx 2Day Freight (Second business day)
- FedEx Express Saver Freight (Up to 3 business days)

(Call for delivery schedule. See back for detailed descriptions of freight services.)

5 Packaging FedEx Letter (Declared value limit $500) FedEx Pak FedEx Box FedEx Tube ✓ Other Pkg.

6 Special Handling

Does this shipment contain dangerous goods? Yes (As per attached Shipper's Declaration) Yes (Shipper's Declaration not required)

- Dry Ice (Dry Ice, 9, UN 1845) x kg. 904 (Dangerous Goods Shipper's Declaration not required)
- CA Cargo Aircraft Only

7 Payment

Bill to: ✓ Sender (Acct. in section 1 will be billed) Recipient Third Party Credit Card Cash/Check

(Enter FedEx account no. or Credit Card no. below)

FedEx Account No.

Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value*	Total Charges
1	30	$ .00	$

*When declaring a value higher than $100 per shipment, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information.

8 Release Signature *Sign to authorize delivery without obtaining signature.*

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FedEx. USA Airbill FedEx Tracking Number 800693659666 0200 Form I.D. No. SPL11 Sender's Copy

From (please print and press hard)

Date 9/29/97 Sender's FedEx Account Number 1717-6344-4

Sender's Name Linda Blanch Phone (510) 227-1100

Company OHM-WESTERN REGION/CRC

Address 5731 W LAS POSITAS BLVD Dept./Floor/Suite/Room

PLEASANTON State CA ZIP 94588

Your Internal Billing Reference Information (Optional) (First 24 characters will appear on invoice) 19087

To (please print and press hard)

Recipient's Name HARRY EHLERS Phone ( )

Company OHM REMEDIATION

Address 20015 72nd AVE S. Check here if residence (Extra charge applies for FedEx Express Saver)

To "HOLD" at FedEx location, print FedEx address here (We Cannot Deliver to P.O. Boxes or P.O. ZIP Codes) Dept./Floor/Suite/Room

KENT State WA ZIP 98032

For HOLD at FedEx Location check here
Hold Weekday (Not available with FedEx First Overnight) Hold Saturday (Not available at all locations) (Available for FedEx Priority Overnight and FedEx 2Day only)

For Saturday Delivery check here
(Extra Charge. Not available to all locations) (Available for FedEx Priority Overnight and FedEx 2Day only)

4a Express Package Service Packages under 150 lbs. Delivery commitment may be later in some areas.
✓ FedEx Priority Overnight (Next business morning) FedEx Standard Overnight (Next business afternoon) FedEx 2Day* (Second business day) FedEx Express Saver* (Third business day) FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)
*FedEx Letter Rate not available. Minimum charge: One-pound rate.

4b Express Freight Service Packages over 150 lbs. Delivery commitment may be later in some areas.
FedEx Overnight Freight (Next business day) FedEx 2Day Freight (Second business day) FedEx Express Saver Freight (Up to 3 business days)
(Call for delivery schedule. See back for detailed descriptions of freight services.)

5 Packaging FedEx Letter (Declared value limit $500) FedEx Pak FedEx Box FedEx Tube ✓ Other Pkg.

6 Special Handling
Does this shipment contain dangerous goods? Yes (As per attached Shipper's Declaration) Yes (Shipper's Declaration not required)
Dry Ice (Dry Ice, 9, UN 1845) x kg. 904 (Dangerous Goods Shipper's Declaration not required)
CA Cargo Aircraft Only

7 Payment
Bill to: ✓ Sender (Acct. in section 1 will be billed) Recipient Third Party Credit Card Cash/Check
(Enter FedEx account no. or Credit Card no. below)
FedEx Account No.
Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value*	Total Charges
1	30	$ .00	$

*When declaring a value higher than $100 per shipment, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information.

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Questions? Call 1-800-Go-FedEx (800) 463-3339

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FedEx. USA Airbill FedEx Tracking Number 800693659644

0200 Form I.D. No.

Sender's Copy

1 From (please print and press hard)

Date 9/29/97 Sender's FedEx Account Number 1717-6344-4

Sender's Name Linda BLANCH Phone (510) 227-1100

Company OHM-WESTERN REGION/CRC

Address 5731 W LAS POSITAS BLVD Dept./Floor/Suite/Room

City PLEASANTON State CA ZIP 94588

2 Your Internal Billing Reference Information (Optional) (First 24 characters will appear on invoice) 19087

3 To (please print and press hard)

Recipient's Name HARRY Ehlers Phone ( )

Company OHM REMEDIATION

Address 20015 72nd AVE S. Dept./Floor/Suite/Room

(We Cannot Deliver to P.O. Boxes or P.O. ZIP Codes)

Check here if residence (Extra charge applies for FedEx Express Saver)

City KENT State WA ZIP 98032

For HOLD at FedEx Location check here
Hold Weekday (Not available with FedEx First Overnight) Hold Saturday (Not available at all locations) (Available for FedEx Priority Overnight and FedEx 2Day only)

For Saturday Delivery check here (Extra Charge. Not available to all locations) (Available for FedEx Priority Overnight and FedEx 2Day only)

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4a Express Package Service *Packages under 150 lbs.* Delivery commitment may be later in some areas.

- [ ] FedEx Priority Overnight (Next business morning)
- [ ] FedEx Standard Overnight (Next business afternoon)
- [ ] FedEx 2Day* (Second business day)
- [ ] FedEx Express Saver* (Third business day)
- [ ] FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)

*FedEx Letter Rate not available. Minimum charge: One-pound rate.

4b Express Freight Service *Packages over 150 lbs.* Delivery commitment may be later in some areas.

- [ ] FedEx Overnight Freight (Next business day)
- [ ] FedEx 2Day Freight (Second business day)
- [ ] FedEx Express Saver Freight (Up to 3 business days)

(Call for delivery schedule. See back for detailed descriptions of freight services.)

5 Packaging [ ] FedEx Letter [ ] FedEx Pak [ ] FedEx Box [ ] FedEx Tube [✓] Other Pkg.
Declared value limit $500

6 Special Handling
Does this shipment contain dangerous goods? [ ] Yes (As per attached Shipper's Declaration) [ ] Yes (Shipper's Declaration not required)
[ ] Dry Ice Dry Ice, 9, UN 1845 [ ] x ____ kg. 904 (Dangerous Goods Shipper's Declaration not required)
CA [ ] Cargo Aircraft Only

7 Payment
Bill to: [✓] Sender (Account no. in section 1 will be billed) [ ] Recipient [ ] Third Party [ ] Credit Card [ ] Cash/Check (Enter FedEx account no. or Credit Card no. below)

FedEx Account No. ____
Credit Card No. ____ Exp. Date ____

Total Packages	Total Weight	Total Declared Value*	Total Charges
1	30	$ .00	$

*When declaring a value higher than $100 per shipment, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE, AND LIMIT OF LIABILITY section for further information.

8 Release Signature *Sign to authorize delivery without obtaining signature.*

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Questions? Call 1-800-Go-FedEx (800)463-3339

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FedEx. USA Airbill FedEx Tracking Number 800693659622

0200 Form I.D. No.

SPL11 Sender's Copy

1 From (please print and press hard)

Date 9/29/97 Sender's FedEx Account Number 1717-6344-4

Sender's Name Linda Blanch Phone (510) 227-1100

Company OHM-WESTERN REGION/CRC

Address 5731 W LAS POSITAS BLVD Dept./Floor/Suite/Room

City PLEASANTON State CA ZIP 94588

2 Your Internal Billing Reference Information (Optional) (First 24 characters will appear on invoice) 19087

3 To (please print and press hard)

Recipient's Name HARRY EHLERS Phone ( )

Company OHM REMEDIATION

Address 20015 72nd AVE S. Dept./Floor/Suite/Room

(We Cannot Deliver to P.O. Boxes or P.O. ZIP Codes)

Check here if residence (Extra charge applies for FedEx Express Saver)

City KENT State WA ZIP 98032

For HOLD at FedEx Location check here
Hold Weekday (Not available with FedEx First Overnight) Hold Saturday (Not available at all locations) (Available for FedEx Priority Overnight and FedEx 2Day only)

For Saturday Delivery check here (Extra Charge. Not available to all locations) (Available for FedEx Priority Overnight and FedEx 2Day only)

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4a Express Package Service Packages under 150 lbs. Delivery commitment may be later in some areas.

- [✓] FedEx Priority Overnight (Next business morning)
- [ ] FedEx Standard Overnight (Next business afternoon)
- [ ] FedEx 2Day* (Second business day)
- [ ] FedEx Express Saver* (Third business day)
- [ ] FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)

*FedEx Letter Rate not available. Minimum charge: One-pound rate.

4b Express Freight Service Packages over 150 lbs. Delivery commitment may be later in some areas.

- [ ] FedEx Overnight Freight (Next business day)
- [ ] FedEx 2Day Freight (Second business day)
- [ ] FedEx Express Saver Freight (Up to 3 business days)

(Call for delivery schedule. See back for detailed descriptions of freight services.)

5 Packaging [ ] FedEx Letter [ ] FedEx Pak [ ] FedEx Box [ ] FedEx Tube [✓] Other Pkg.
Declared value limit $500

6 Special Handling
Does this shipment contain dangerous goods? [ ] Yes (As per attached Shipper's Declaration) [ ] Yes (Shipper's Declaration not required)
[ ] Dry Ice Dry Ice, 9, UN 1845 [ ] x ____ kg. 904 (Dangerous Goods Shipper's Declaration not required)
CA [ ] Cargo Aircraft Only

7 Payment
Bill to: [✓] Sender (Account no. in section 1 will be billed) [ ] Recipient [ ] Third Party [ ] Credit Card [ ] Cash/Check (Enter FedEx account no. or Credit Card no. below)

FedEx Account No. ____
Credit Card No. ____ Exp. Date ____

Total Packages	Total Weight	Total Declared Value*	Total Charges
1	30	$ .00	$

*When declaring a value higher than $100 per shipment, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE, AND LIMIT OF LIABILITY section for further information.

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Questions? Call 1-800-Go-FedEx (800)463-3339

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Appendix C
USACE/OHM Coordination Meeting Minutes

Minutes of the Quality Control and Quality Assurance
Mutual Understanding,
Safety and Environmental Protection Meeting

CONTRACT NUMBER: DACA85-94-D-0017, DO#09

PROJECT: Annette Island, PCB Removal

CONTRACTOR: OHM Remediation Services

1. The conference was held at 0900 hours, on 25 September 1996 at Annette Island. The following persons were in attendance:

Name	Organization	Phone Number
Koenig, Reinhard W.	COE	384-7442
Hiltonen, Todd	OHM, Site Superintenant Safety Officer	563-8714
Renke, Russell	FAA	271-3294

2. The purpose of the Quality Control (QC) program is to ensure that the government obtains a quality product. Quality Control is a contract requirement which is specifically addressed in Contract Clauses 50,51,61, and 64, Special Clauses 8 and 30, and numerous Technical Specifications.

3. The Quality Control Program is the contractor's program; he designs and administers it. The Contractor's role is that of quality control.

4. Quality control is a management tool which will facilitate planning and problem-solving and will make money for the Contractor due to increased efficiency.

5. At the heart of the Quality Control Program lies the three-phase inspection system:

a. The First step is the prepatory phase inspection. This is a meeting which the Contractor's Quality Control (CQC) conducts and the superintendent, involved subcontractors and Corps representatives attend. Forty-eight hours advance notice is to be given the Corps representative and the meeting is to be held prior to beginning work on that particular activity. At this meeting a complete review of pertinent plans, specifications, references, submittals, materials, equipment and the job hazard analysis will be accomplished.

b. The second step is the initial phase inspection. After completion of a representative sample of work, a "meeting of the minds" must occur to establish an acceptable level of workmanship. The CQC, superintendent, foreman and Corps

representative are present at this time. This is to be done for each crew which performs an activity. Twenty-four hours advance notice must be given the Corps representative.

c. The Third step is the follow-up inspection which is performed on a daily basis for a given activity to insure compliance with contract requirements.

6. Documentation is to be thorough and accurate, showing all work performed, tests conducted, crafts and equipment utilized, directions received and weather experienced. Emphasis in daily reports should be given to follow-up inspection: deficiencies which are noticed should be included in daily reports. A copy of the Daily Report is due to the Corps of Engineer Representative on site no later than 1200 the next day. The Corps of Engineers will not mark on the Contractor's quality control in any manner.

7. It is the responsibility of the Contractor to require suppliers to provide test results or lab reports which verify that materials meet the contract requirements.

8. If the Contractor's Quality Control Program is deficient, one or more of the following actions will be taken:

a. Remove and replace deficient work.

b. Non-payment for deficient work or work on top of deficient work.

c. Remove incompetent QC or other personnel.

d. Stop work on deficient item.

e. Unsatisfactory rating of Contractor.

f. Termination of contract.

9. A definitive statement of QC's of authority and responsibilities signed by a responsible officer of the firm is required. This should specifically address the authority to stop work not in accordance with the plans and specifications.

10. Safety is of primary concern to the Corps of Engineers. Good safety practices are a contract requirement and go hand-in-hand with successful construction management. Corps of Engineers safety requirements are found in Contract Clause 58, the U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, and numerous specifications. A good safety program will better productivity, improve morale, save time and make money for the contractor.

11. The following items are perennial in nature:

a. Hard hats are to be worn on the job site at all times.

b. Steel toed work boots are to be worn on the job site.

c. Certification of equipment and personnel is required prior to the start of work.

d. Clean-up is to be done routinely.

e. Weekly safety meetings for all personnel; monthly safety meetings for all supervisory personnel, as well as daily tailgate safety briefings conducted for all personnel.

f. The proper level of personal protective equipment used throughout the project particularly during the application of the PCB Extraction process.

g. Daily safety inspection of the job site to be documented on the QC report.

12. Minor lost time injuries are to be reported on ENG Form 3394 within five working days; serious injuries require submittal of ENG Form 3394 and documented in daily QC reports. All accidents require immediate notification on Form FL 128 to the Corps of Engineers. Monthly Exposure reports are to be provided to the Project Engineer by the 10th of each month. The superintendent has primary responsibility for enforcement of the Safety Program.

13. The Job Hazard Analysis should be addressed in the preparatory phase inspection meeting and adherence to safe work procedures looked at during the initial and follow-up phases.

14. If the Contractor's Safety Program is deficient, one or more of the following actions will be taken:

a. Remove uncooperative personnel.

b. Stop work on the item with a safety deficiency.

c. Issue an unsatisfactory performance rating to the contractor.

15. Contractors are responsible for the enforcement of their Environmental Protection Plan.

16. The Conference ended at 11:35 hours.

Todd Hiltunen
Site Superintendent
OHM Remediation Services

Reinhard W. Koenig
Project Manager/QAR
Corps of Engineers

Appendix D
Right-of-Entry Permit

COUNCIL ANNETTE ISLANDS RESERVE

METLAKATLA INDIAN COMMUNITY

JACK L. BOOTH, SR., MAYOR
JUDITH A. LAUTH, SECRETARY
BARBARA J. FAWCETT, TREASURER

ESTABLISHED 1887

POST OFFICE BOX 8
METLAKATLA, ALASKA 99926
PHONE (907) 886-4441
FAX (907) 886-3334
FAX (907) 886-7997

January 26, 1996

Gordon J. Severson, Realty Specialist
U.S. Army Engineer District, Alaska
P.O. Box 898
Anchorage, Alaska 99506

Dear Mr. Severson,

Please find enclosed two signed copies of your Right of Entry Permits.

We appreciate your efforts in cleaning up the highly toxic polychlorinated biphenyls (PCBs) from our hangar facility.

Please continue to coordinate your efforts with my Realty officer, Sol Atkinson, Phone number (907) 886-1121.

Sincerely,

METLAKATLA INDIAN COMMUNITY

Jack L. Booth Jr.

Jack L. Booth, Sr., Mayor

CENPA-RE-AQ (200-1c) 6 February 1996

MEMORANDUM FOR

CENPA-EN-EE-II (Joe Burwell)
CENPA-PM-E-W (Ron Toombs)

SUBJECT: Right-of-Entry, Annette Island FAA Station

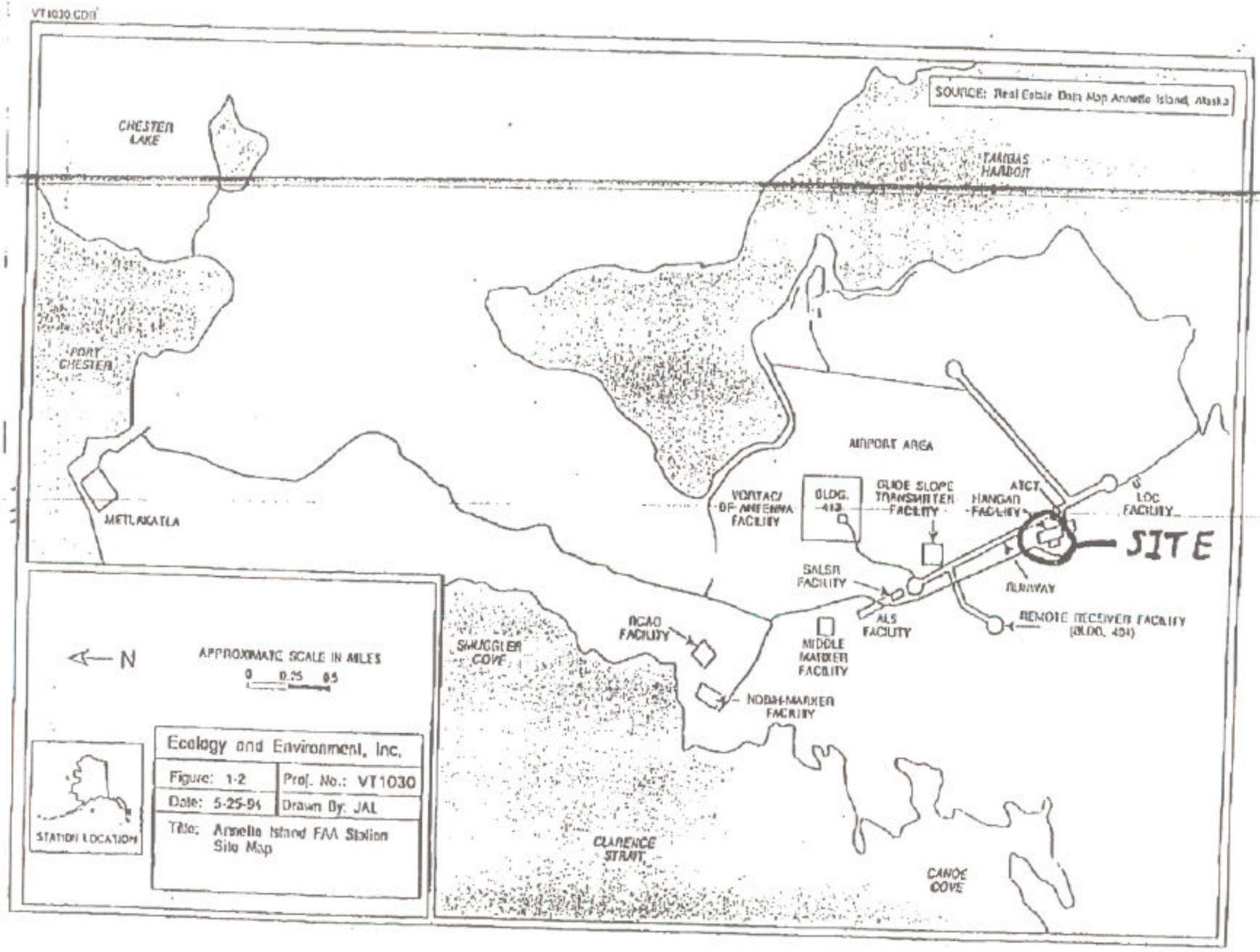
1. Transmitted for your records is a copy of the fully executed Right-of-Entry for Environmental Assessment and Response (ROE) No. DACA85-9-96-45, from the Metlakatla Indian Community, Annette Islands Reserve. The term of the ROE is from 26 January 1996 to 25 January 1998.

2. Please contact me at X-1453, or via cc:Mail, if you have any questions.

Gordon J. Severson

GORDON J. SEVERSON
Realty Specialist

Encl



DEPARTMENT OF THE ARMY

RIGHT-OF-ENTRY FOR
ENVIRONMENTAL ASSESSMENT AND RESPONSE

Annette Island FAA Station
Project, Installation or Activity

No. DACA85-9-96-45
Tract No., Address or Property I.D.

The undersigned, hereinafter called the "Owner", in consideration of the mutual benefits of the work described below, hereby grants to the UNITED STATES OF AMERICA, hereinafter called the "Government", a right-of-entry upon the following terms and conditions:

1. The Owner hereby grants to the Government an irrevocable right to enter in, on, over and across the land described herein, for a period not to exceed two years, beginning with the date of the signing of this instrument, and terminating with the earlier of the completion of the remediation or the filing of a notice of termination in the local land records by the representative of the United States in charge of the Annette Island FAA Station removal action project; for use by the United States, its representatives, agents, contractors, and assigns, as a work area for environmental investigation and response; including the right to store, move, and remove equipment and supplies; erect and remove temporary structures on the land; investigate and collect samples; excavate and remove ordnance and explosive waste, pollutants, hazardous substances, contaminated soils, containerized waste, and replace with uncontaminated soil; demolish and dispose of former Government structures and debris; and perform any other such work which may be necessary and incident to the Government's use for the environmental investigation and response on said lands; subject to existing easements for public roads and highways, public utilities, railroads and pipelines; reserving, however, to the landowner(s), their heirs, executors, administrators, successors and assigns, all such right, title, interest and privilege as may be used and enjoyed without interfering with or abridging the rights and right-of-entry hereby acquired.

2. The Owner also grants the right to enter and exit over and across any other lands of the Owner as necessary to use the described lands for the purposes listed above.

3. All tools, equipment, and other property taken upon or placed upon the land by the Government shall remain the property of the Government and may be removed by the Government at any time within a reasonable period after the expiration of this permit of right-of-entry.

Annette Island FAA Station

No. DACA85-8-96-45

4. Upon expiration or termination of this right-of-entry, the Government shall assure restoration of the ground contour, replace any pavement or other cover which was removed or damaged for this work, establish a groundcover of grass on areas not otherwise covered and reconnect any operating utility lines which were required to be disconnected or otherwise disrupted.

5. The land affected by this right-of-entry is located in the State of Alaska and is described as follows:

A portion of Section 8, Township 79 South, Range 92 East, Copper River Meridian, Alaska.

WITNESS MY HAND AND SEAL this 26 day of January, 19 96.

METLAKATLA INDIAN COMMUNITY

By: Jack L. Booth, Sr. (SEAL)
Title: Jack L. Booth, Sr., Mayor

UNITED STATES OF AMERICA

DENNIS E. KLEIN
Chief, Real Estate Division
U.S. Army Engineer District, Alaska

Appendix E
Photographs

Photo No. 1: Hangar Facility - The soil excavation area is located on the northwest side of the hangar facility.

Photo No. 2: Hangar Facility - This view shows Room A prior to removal actions.

Photo No. 3: Hangar Facility - Initial site conditions are shown for Room B.

Photo No. 4: Hangar Facility - Initial site conditions show debris and piping in Room C.

Photo No. 5: Hangar Facility - Initial decontamination efforts included in the removal of asbestos containing material from Rooms A, B, and C.

Photo No. 6: Hangar Facility - Following asbestos removal, miscellaneous debris was removed and cleaned.

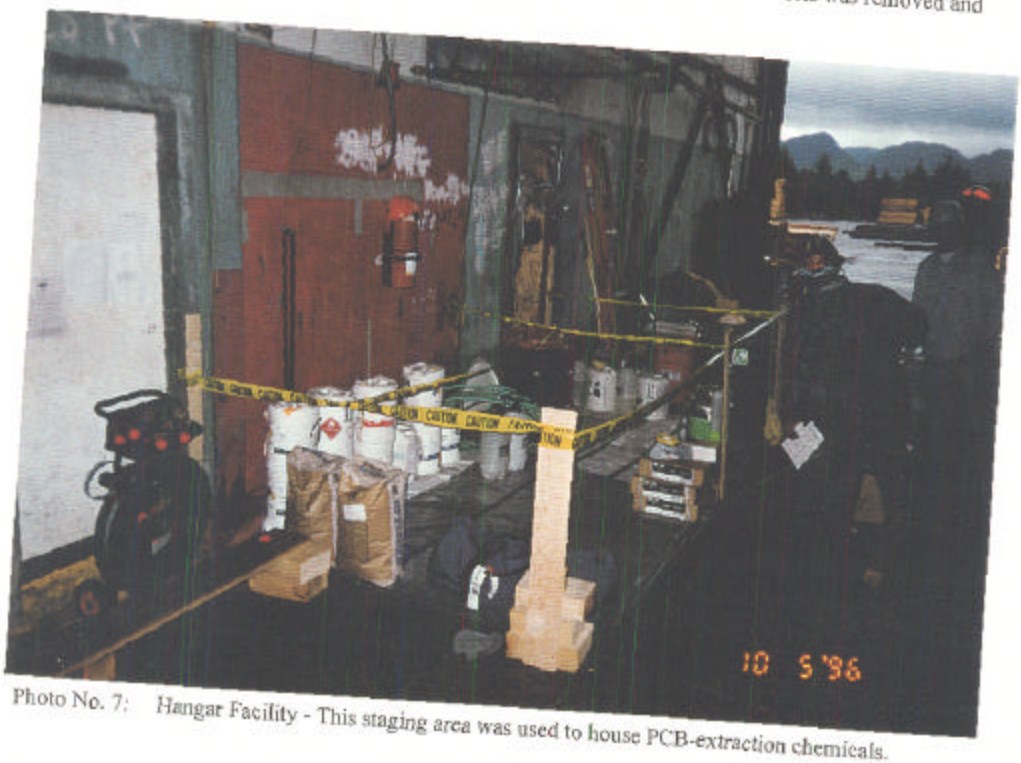


Photo No. 7: Hangar Facility - This staging area was used to house PCB-extraction chemicals.

Photo No. 8: Hangar Facility - Room A as shown during the chemical extraction process.

Photo No. 9: Hangar Facility - The PCB-extraction chemicals are applied following debris removal.

Photo No. 10: Hangar Facility - The PCB-extraction chemical are allowed to set in Room C.

Photo No. 11: Hangar Facility - Room A received an additional ten cycles of chemical treatment. PCB levels remained above cleanup criteria.

Photo No. 12: Hangar Facility - Room B received an additional ten cycles of chemical treatment. PCB levels remained above cleanup criteria.

Photo No. 13: Hangar Facility - Room C also received an additional ten cycles of chemical treatment. PCB levels remained above cleanup criteria.

Photo No. 14: Hangar Facility - Temporary heating was required once temperatures dropped at Annette Island. The chemical extraction process is ineffective in temperatures below freezing.

Photo No. 15: Hangar Facility - As a modification to the original scope of work, the concrete was scarified to remove PCBs from the floor of the Hangar Facility.

Photo No. 16: Hangar Facility - .Site restoration of scarified concrete surfaces included the patching of select areas in Rooms A and B. A 4-inch concrete cap was placed in the removal area of Room C, the entire floor surface was covered with a 2-inch concrete cap.

Photo No. 17: Hangar Facility - .Metal surfaces with Rooms A, B, and C were also scarified to remove PCB contamination.

Photo No. 18: Hangar Facility - .The final process used to remove residual PCB contamination from metal surfaces was the application of a paint stripper.

Photo No. 19: Remote Trailer - An abandoned FAA trailer containing electrical equipment was cleared of debris. Following testing, it was determined that the trailer interior required removal and disposal as PCB waste.

Photo No. 20: Remote Trailer - Site conditions as shown following removal of trailer interior.

Photo No. 21: Soil Excavation Area - PCB contaminated soil was excavated from a defined area outside the northwest corner of the Hangar Facility.

Photo No. 22: Soil Excavation Area - The excavation area contained various utilities.

Photo No. 23: Soil Excavation Area - Immunoassay field screening was used to detect the presence of PCB contamination and guide excavation activities.

Photo No. 24: Soil Excavation Area - Bulk storage sacks were used to contain excavated soil.

Photo No. 25: Soil Excavation Area - Soil excavation continued based on field screen results.

Photo No. 26: Hangar Facility - Due to persistent PCB contamination, an area of concrete floor in Room C required complete removal. Subsurface soil was excavated until immunoassay testing determined soil was below action levels.

Photo No. 27: Soil Excavation Area - The excavation was backfilled with gravel from a local source.

Photo No. 28: Waste Staging Area - Bulk storage sacks were loaded into connex containers.

Photo No. 29: Hangar Facility - Site restoration of the building exterior included the installation of walls at Room A's access door and Room C's northwest wall.